FILE COPY
FOREST INSECT LABORATORY
UNIVERSITY OF CALIFORNIA
BERKELEY, CALIFORNIA
FILE No. File 635
Refer to:
Noted by:

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH ADMINISTRATION
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

Project | Date | Author

SUBJECT—

TITLE

FOREST INSECT SURVEY OF THE SEQUOIA NATIONAL FOREST AND ADJACENT PRIVATE LANDS SEASON OF 1950

By

S. G. Merryman

and

M. M. Furniss

Forest Insect Laboratory
29 Forestry Bldg., U. C.
Berkeley 4, California
December 15, 1950

INDEX NO.—

U. S. GOVERNMENT PRINTING OFFICE 16—47272-1

Distribution:

Regional Office
Sequoia N. F.
State Forester
Dr. Beal
National Park Service
Survey file
File

FOREST INSECT SURVEY OF THE SEQUOIA NATIONAL FOREST AND ADJACENT PRIVATE LANDS SEASON OF 1950

Submitted by:

S. G. Merryman
Supervisory Control Aide

and

Approved by:

F. P. Keen
Entomologist in Charge

M. M. Furniss
Supervisory Control Aide

Forest Insect Laboratory
29 Forestry Bldg., U. C.
Berkeley 4, California
December 15, 1950

FOREST INSECT SURVEY OF THE SEQUOIA NATIONAL FOREST AND ADJACENT PRIVATE LANDS SEASON OF 1950

INTRODUCTION

The first mention of dying timber on the Sequoia National Forest was made in 1908 according to the Summary of Insect Surveys and Control, covering the period from 1908 to 1945, by J. M. Miller of the Berkeley Forest Insect Laboratory. In that year, Forest Assistant Maude reported affected and dying Jeffrey pine in the Little Kern River Area.

Periodic inspections since then show that forest insect infestations have occurred on various portions of the forest with varying degrees of intensity. Paramount among these infestations were the great bark beetle outbreaks during 1930 and 1931. Since 1932, forest insect activity has been endemic in nature with only localized flare-ups such as defoliation of Jeffrey pine by pandora moths during 1947 and 1948 in the Little Kern Basin.

During the past two seasons, reports indicate a general increase in bark-beetle activity over most of California's pine areas. Because of this, and with the impetus provided by the Forest Pest Control Act of 1947, which provided funds for the detection of forest insect infestations, starting in Fiscal Year 1950, the Berkeley Forest Insect Laboratory embarked on a comprehensive survey this season to determine the status of current infestations.

SURVEY METHODS

The survey included ground measurements, during August, of the extent and volume of insect-caused loss. While this sampling was in process, the survey party also made use of lookouts and other high vantage points from where loss conditions in inaccessible areas and the general loss pattern were noted. They were aided greatly in their work by the active cooperation of Forest personnel on each Ranger District who, through their daily work and cumulative impressions, were able to add materially to the information obtained on general infestation conditions.

Because insect broods have attacked new trees since the August survey thereby changing initial loss estimates, an aerial reconnaissance was made on November 1 and 2 to supplement appraisals of loss conditions found by the earlier plot measurements and ground observations. This proved to be an invaluable tool in summing up the present status of infestations over the entire forest. Not only were areas, which had been previously sampled, looked into, but several previously inaccessible stands were viewed. The leader of the summer ground survey also participated in the aerial reconnaissance which allowed a clear interpretation of loss conditions on the forest.

CURRENT INSECT TRENDS AND LOSSES

Bark-beetle losses over the forest have increased in general over those of last year in both ponderosa and sugar pines. This loss has, in some areas, reached the stage where large groups of trees are being

successfully attacked and killed. Where this type of killing is present, it is evident that all age classes of trees, including the youngest and most vigorous ones, are being attacked indiscriminately. An even more intensive outbreak may be expected where this type of infestation exists, unless bark beetle populations can be reduced materially this winter by control measures. Loss in the Bull Run Creek and upper Little Poso Creek drainages in particular has increased greatly during the past year and many groups of dead trees are now present. The area in the vicinity of Soda Flat, east of Angora Mountain, is currently suffering from an aggressive infestation of pine bark beetles which may spread further from trees weakened by the 1949 fire near Trout Meadow. Digger pine loss is remaining high along the Kern River Canyon above Kernville.

Insects Involved in Current Kill:

The western pine beetle is responsible for most of the killing of ponderosa pine on the forest, although flathead borers and Ips beetles often attack in association with it.

Losses in sugar pine were found to result from attacks by the mountain pine beetle.

Flatheads and Ips have killed many of the Digger pines along the Kern River Canyon.

CONDITIONS BY AREAS

Bull Run Creek Drainage Area:

This aggressive infestation extends over a considerable area. Loss occurs individually and in groups and is uniformly heavy throughout the area. On a volume basis, this is perhaps the most heavily infested area to be found on the forest. Continued heavy

losses with considerable timber depletion are likely if present conditions continue.

Upper Little Poso Creek (Evans Flat) Area:

Bark-beetle attacks in ponderosa pine are resulting in high loss in the upper portion of the Little Poso Creek drainage. The infestation has spread over the area between Davis guard station and Basket Peak. It has resulted in the killing of large groups of young vigorous trees and appears capable of causing further severe damage in this area.

Upper Kern Area:

High loss is occurring here. Several large groups of dead pines are centered south and east of Angora Peak and are principally confined at present to the canyon bottom around Soda Flat. The presence of many fire-weakened trees from the 1949 fire near Trout Meadow may provide a future source of more widespread infestations.

Camp Nelson Area:

Ground examination and plot measurements indicate an infestation by bark beetles of considerably greater scope than has been usually experienced. This loss is somewhat more than was encountered by air observers because infested trees have been logged in this area under an administrative-use sale, and it is possible that some trees were removed before the aerial observations were made.

Mineral King Area:

Slightly more than normal loss is occurring in parts of this area. Most activity appears in the vicinity of Paradise Cave and Pine Mountain with a local infestation of sugar pine below Atwell Mill. An examination of the Mineral King Area failed to show

any signs of increased activity by needleminers although they have been occasionally reported active here for many years.

Woodard Creek, Cherry Gap, and General Grant Park Areas:

Bark beetles have been moderately active in these areas recently. Loss at this time is not extreme but is at a higher level than normally experienced.

Delilah Lookout, Pine Ridge, McKenzie Ridge and Dunlap Areas:

Loss surrounding Pine Ridge and McKenzie Ridge is scattered and rather light, however, a group of recently-killed trees just north of Delilah Lookout may indicate the start of increased bark-beetle activity in these stands. Killing in the Dunlap Area, including the south aspect above Stony Flat, although not yet heavy, is increasing over that of the past few years.

CONTROL RECOMMENDATIONS

Bull Run Creek and Little Poso Creek Drainage Areas:

Direct control, using the fell-peel-burn method, in these heavily infested drainages is necessary before present broods emerge next spring in order to reduce the bark-beetle population and prevent the present severe outbreak from developing further destructiveness. Where practical, currently-infested trees should be salvaged by a local mill with the provision made that the bark containing overwintering broods be destroyed in the refuse burner.

Upper Kern Area:

The losses now being sustained in this area are heavy but control may prove difficult and expensive due to the remoteness of this region.

Area Surrounding General Grant and Sequoia Parks:

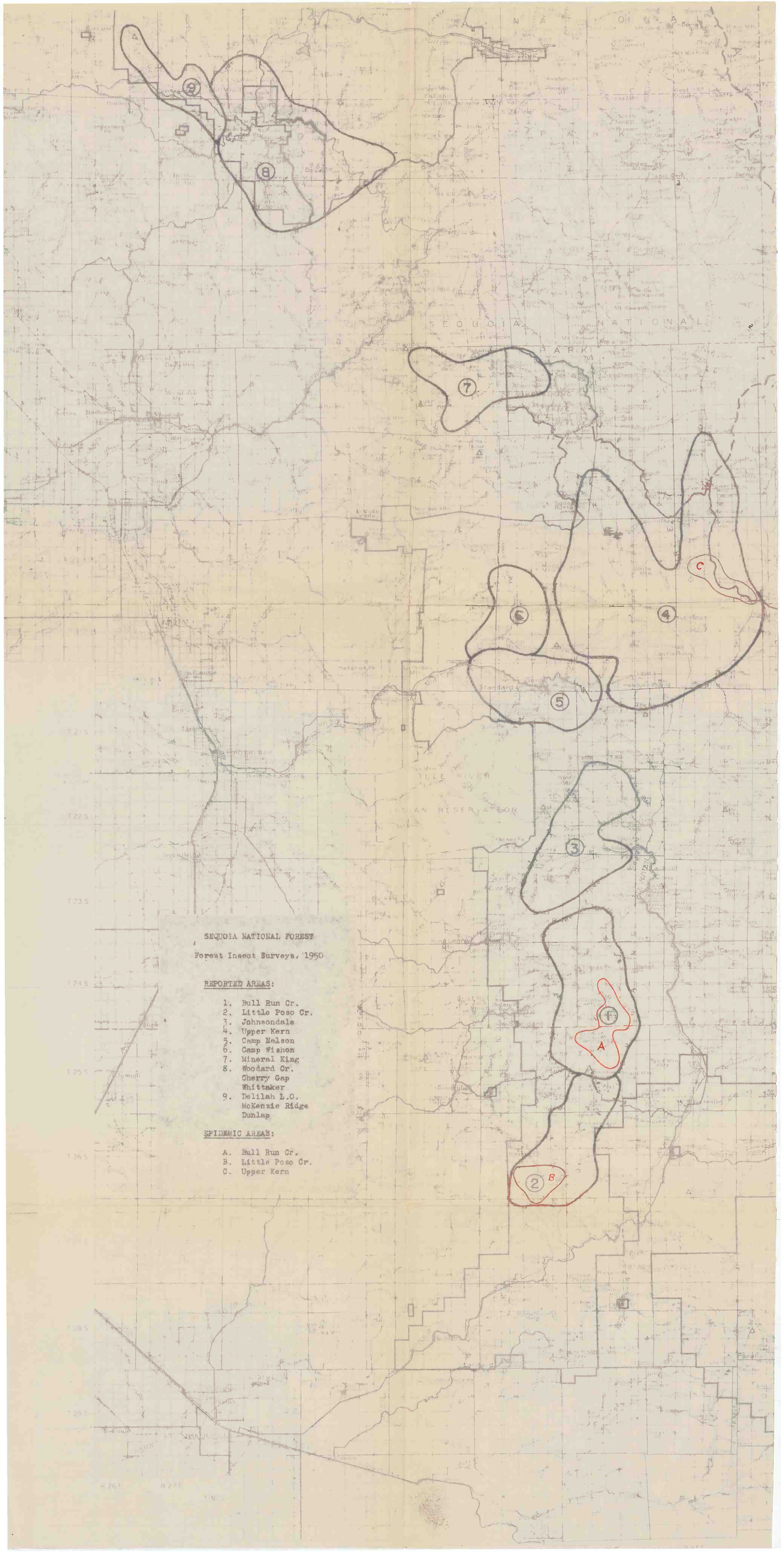
Maintenance control undertaken by the Park Service is being rendered partially ineffective by beetles coming into the parks from neighboring land under Forest Service administration. To insure effective control of infestations within the parks it is essential that the control areas be extended to include all outbreaks on national forest land from which bark beetles can extend their attacks to the parks.

Camp Nelson and Johnsondale Areas:

Loss in the Camp Nelson area has increased recently and small groups of trees are now being killed. Where possible, all currently-killed trees of merchantable size which will contain overwintering broods of bark beetles should be salvaged by a local mill. Inaccessible trees will require treatment by fell-peel-burn methods to destroy their broods and complete the control operation. This procedure is also advocated for the Johnsondale Area to confine loss to the present level.

Table 1. Estimated Insect-caused Loss in Pine for Epidemic Areas as Indicated on Appended Map

Epidemic Areas	Timbered Acreage (Est.)	Estimated Loss -- 1950	
		No. of Trees	Total Vol., b.m.
A. Bull Run Creek	4,500	562	421,500
B. Little Poso Creek	4,200	656	196,800
C. Upper Kern	3,000	468	234,000


SEQUOIA NATIONAL FOREST
Forest Insect Surveys, 1950
REPORTED AREAS:
1. Bull Run Cr.
2. Little Poso Cr.
3. Johnsondale
4. Upper Kern
5. Camp Nelson
6. Camp Wishon
7. Mineral King
8. Woodard Cr.
Cherry Gap
Whittaker
9. Delilah L.O.
McKenzie Ridge
Dunlap
EPIDEMIC AREAS:
A. Bull Run Cr.
B. Little Poso Cr.
C. Upper Kern
SEQUOIA NATIONAL PARK
T21S
T22S
T23S
T24S
T25S
T26S
T28S
T29S